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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,837	09/18/2003	Jeffrey L. Conroy	902.0137.U1(US)	6742

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HARRINGTON & SMITH, PC  
4 RESEARCH DRIVE  
SHELTON, CT 06484-6212

EXAMINER
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ANGEBRANNDT, MARTIN J

ART UNIT	PAPER NUMBER
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1756

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/19/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/665,837

Applicant(s)

CONROY ET AL.

Examiner

Martin J. Angebrannt

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3-22,24-29,44-46 and 48-55 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-22,24-29,44-46 and 48-55 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

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1. The previous office action was incomplete neglecting to treat claims 50-55. A new action is issued to replace that action in its entirety and the period from response is restarted as of the mailing date of this action.

2. The response of the applicant has been read and given careful consideration. Responses to the arguments are presented after the first rejection to which they are directed. Rejections of the previous office action not appearing below are withdrawn based upon the arguments and amendments. The restriction is moot as the non-elected claims have been cancelled. The amendment to the specification is noted.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1,3-17,19-22,24-29,44-46 and 48-55 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims should recite "optical media disk substrates" to make it clear that the system handles disc media, rather than tape (like photographic film). In claim 28, the claim should recite "a station for receiving optical recording disk substrates including the optical recording disk substrates". In claim 48, the claim should recite "a preliminary station for forming optical recording disk substrates including the resulting optical recording disk substrates"

The claims should recite "a first unit for applying a coating including a photocurable photoinduced color forming composition" to make it clear that the system includes the compositional limitation, rather than these merely being intended use and to make it clear the two type of photosensitivity of the composition being applied.

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5.

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claim 51 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification uses the same language as the claims, but fails to further describe any means for performing the inspection.

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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10. Claims 1,3-17,19-20 and 22-29 and 44-46 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Gaudinana et al. '118.

See the coating and exposure using three wavelengths at 30/54-34/29, where three color generating compositions are coated and either three lasers or three masking steps each of which occur at 450, 400 and 350 nm are used to direct write the pattern. (three sources). Examples 6 uses a 360 nm exposure through a filter source and a 440 nm exposure of a filtered Xenon arc (39/44-40/61). These include leuco dyes. The substrates may be transparent or opaque (29/47).

The recitations of the substrates, including the data limitation and coating compositions are intended use limitations. The examiner holds that the reference is able to coat the described upon a substrate, which has some marking on it applied either by embossing or printing/ink or the like. These are embraced by the language appearing in the applicant's claim 25. This is within the scope of coverage sought based upon the compositional limitations being intended use. Note the wavelengths of light described in the reference. With respect to claim 24, this controller may be a human being/operator. The applicant does not describe optical disks until claim 17, so the argument on page 14 of the response is not commensurate with the scope of coverage sought.

11. Claims 1,3-17,18-20,22-29,44-45 and 47-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gaudinana et al. '118, in view of Iwai et al. '746 and/or Patel et al. '820.

Patel et al. '820 teach the use of an LCD mask, which is programmable to perform color separation exposures, which reduces the alignment issues. (2/60-64). The use of the electrically controllable mask is color changing systems is disclosed. (2/65-3/16). The possibility of altering the image during the exposure as a means for compensation is disclosed. (4/14-27).

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Iwai et al. '746 in See example 1, where the composition is spin coated and an argon ion laser is used to direct write the pattern and a UV mercury lamp to provide a final cure. These include leuco dyes.

It would have been obvious to one skilled in the art to modify the process of Gaudinana et al. '118 by using other coating techniques, such as spin coating taught by Iwai et al. '746 as useful with leuco dye based compositions with a reasonable expectation of success and/or to use a single electronically driven LCD mask in place of the three masks described in column 33 at line 26, with a reasonable expectation of gaining the advantages ascribed to this by Patel et al. '820.

The rejection stands for the reasons above as no further arguments were directed at this rejection.

12. Claims 1,3-22,24-29,44-46,48 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krasulak WO 99/65696, in view of Gaudinana et al. '118.

Krasulak WO 99/65696 describes a CD coated with an ink using spin coating, a LCD mask is then used to mask 780 nm radiation, which colors the ink in the exposed area and this is followed by a UV exposure at 308 nm to cure the entire layer and fix the image. (3/22-38). This is described for a negative mask and may be performed using a series of applications of colorless inks which develop cyan, magenta, yellow and black images upon the imaging exposure. This may be images, decoration and may include watermarks, (5/11-21). The use of CD burners with this is disclosed (5/8-10).

It would have been obvious to one skilled in the art to modify the process disclosed by Krasulak WO 99/65696 by using composition which color using the influence of different colors

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of light, rather than all being sensitive to the same wavelength, this would allow the formation of multicolored images through the LCD mask without needing to register the image after each coating step and the final UV cure would work for all the layers.

The applicant argues that the reference does not show the application of the coating to the imaging/readout side of the disk. The examiner notes that the application of the coating to the disc/disk is taught, the claims are not directed to the method and the application clearly the coating to one side would prove that the coating of either side is enabled. Further as the claims are directed to the apparatus and not the method the order of the exposure process is irrelevant. The means for performing the various steps merely need to be present. Further the curing may be imagewise (using a mask) to apply the composition only in a selected area. The claims do not require the exposure to be a flood/unmasked exposure. The rejection stands.

13. Claims 1,3-22,24-29,44-46,48 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krasulak WO 99/65696, in view of Gaudinana et al. '118, further in view of Grossa DE 4240141 and Seaki et al. '373.

Grossa DE 4240141 teaches the use of leuco dye compositions which are exposed in the visible to form an image, followed by UV curing exposure.

Seaki et al. '373 in example 1, where two differently sensitized microcapsules are formed, mixed and coated to form a recording layer and a filtered mercury lamp is used to recording data using 400+ nm and another filter is used to record data using wavelengths of 400 nm or less. (col .8) These include leuco dyes.

In addition to the basis provided above, the examiner cites Grossa DE 4240141 to establish the use of leuco dyes, which are colorized using visible light, in UV curable

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compositions to support the position of obviousness above where the use of laser or filter light in the visible and near UV to form the images followed by a cure using deeper UV and thereby establish a basis for the assemblage of lamps recited in the claims and rendered obvious by the combination and Seaki et al. '373 which provides a teaching of the use of plural color formers in a single layer composition and establishes a likelihood of success in modifying the compositions of Gaudinana et al. '118, rather than different layers and using them in the apparatus resulting from the combination of Krasulak WO 99/65696 with Gaudinana et al. '118 and Grossa DE 4240141.

14. Claims 1,3-22,24-29,44-46,48 and 54-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krasulak WO 99/65696, in view of Gaudinana et al. '118, further in view of Tachikawa et al. '588.

Tachikawa et al. '588 teach a spin coater for coating UV curable films on optical recording media and operates at 50-500 RPM (7/50-57).

To address the embodiments bounded by the claims, but not rendered obvious above, the examiner holds that it would have been obvious to modify the system resulting from the combination of Krasulak WO 99/65696 and Gaudinana et al. '118 by using known spin coaters for coating UV curable compositions such as that disclosed by Tachikawa et al. '588 as operable at velocities of 50-5000 RPM with a reasonable expectation of the resultant system being able to produce the media formed by the combination of Krasulak WO 99/65696 and Gaudinana et al. '118 based upon its prior use in the art to coat UV curable coatings.



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15. Claims 1,3-22,24-29,44-46,48-50 and 52-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Usami et al. '536, in view of Krasulak WO 99/65696 and Gaudinana et al. '118.

Usami et al. '536 teaches with respect to figure 1, a processing line for optical recording media including a embossing area (12A and 12B), stations for forming the recording layer and the reflective layers, a spin coater for the UV curable composition, a UV ray curing apparatus and a defect inspection apparatus including inspection for defects in the protective layer surface and a sorting means for separating acceptable and defective media based upon the output of the defect detection means [0051]. The defect inspection means transmits the results to the sorting means and the defect detection means utilizes detects light reflected from the media using a CCD camera. [0097]. The formation of a label using printing is disclosed [0099].

There is clearly information exchanged between the different stations in Usami et al. '536 and the examiner holds that it would have been obvious to modify the processing line for forming optical recording media by using the compositions of Krasulak WO 99/65696 which have been individually sensitized to different wavelengths as taught by Gaudinana et al. '118 to provide labeling information by a separate printing which allows the formation of multicolored label images through the LCD mask without needing to register the image after each coating step and the final UV cure would work for all the layers.

16. Claims 1,3-22,24-29,44-46 and 48-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Usami et al. '536, in view of Krasulak WO 99/65696 and Gaudinana et al. '118 and Nakada JP 2000-266683.

Nakada JP 2000-266683 (machine translation attached) teaches the evaluation of an optical disc using a CCD detector where light is reflected off the disc surface and collected with a lens and a CCD array. Defect heights of as little as 10 nm and 25 microns is diameter can be detected. (abstract, [0013])

To address embodiments bounded by the claims, but not rendered obvious by the combination of references set forth above, the examiner holds that it would have been obvious to modify the apparatus rendered obvious by the combination of Usami et al. '536 with Krasulak WO 99/65696 and Gaudinana et al. '118 by using known defect detectors using CCD cameras such as that disclosed by Nakada JP 2000-266683 as the defect detection means based upon this being congruent with the disclosure of detection means of Usami et al. '536 using a CCD camera and light reflection.

17. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

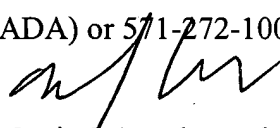
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J. Angebranndt whose telephone number is 571-272-1378. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Martin J. Angebranndt  
Primary Examiner  
Art Unit 1756

4/2/07

~~01/22/2006~~